

Abstract of Disclosure

A method for manufacturing a semiconductor device capable of suppressing the electric charge as charged up in a semiconductor layer of an SOI substrate at the time of the ion implantation, thus preventing a BOX layer and a gate oxide from being damaged. By means of LOCOS method, a field oxide film 20 is formed on a semiconductor layer 18 which is formed on a BOX layer 16 making up of the SOI wafer 12 of a semiconductor device 100. A conductive layer 102 is formed on the field oxide film 20 and a gate oxide film 26 as well. The conductive layer 102 made of amorphous carbon is formed by means of the sputtering method and has a thickness of 5nm to 10nm. B⁺ 24 is implanted in the interface between the semiconductor layer 18 and the gate oxide film 22 by means of an intermediate dose ion implanter. The electric charge 38 generated in the semiconductor layer 18 at the time of the ion implantation results in the FN current, which is removed through the gate oxide film 22 and the conductive layer 102 as well. After removing the conductive layer 102, a gate electrode 26 is formed on the gate oxide film 22.

09364169 052501